A Range Extension for Dryopteris filix-mas

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On 14 December 1979, I collected *Dryopteris filix-mas* (L.) Schott in a mesic ravine in Glencoe, Cook County, Illinois. Two large plants and a smaller one were growing within a few feet of each other on a steep, relatively undisturbed northwest-facing slope of the ravine, about 400 feet west of Lake Michigan in T42N, R13E, SE1/4, Sec. 6. Associates were *Acer saccharum*, *Aralia nudicaulis*, *Hamamelis virginiana*, *Quercus rubra*, and *Trillium grandiflorum*. A search of other ravines in the vicinity failed to reveal any other plants of *D. filix-mas*.

This fern has not been reported previously for Illinois (Mohlenbrock & Ladd, 1978). It is newly reported for Wisconsin (Brown County) by Peck and Taylor (1980). The nearest stations appear to be in Marquette County, Michigan (Billington, 1952, p. 177) and in Brown County, Wisconsin, about 270 and 160 miles distant.

Are these plants spontaneous on this site or is their occurrence due to the actions of man? Although this question cannot be answered with absolute certainty, the following points support natural occurrence:

(1) The plants grow in an environment typical for the species, in a relatively undisturbed area with autochthonous associates.

(2) Pepoon (1927), Moran (1978), Swink and Wilhelm (1979), and personal observation document the presence of many other uncommon plants for this area in the ravines along Lake Michigan. Some of these are: *Dryopteris intermedia*, *D. marginalis*, *Equisetum scirpoides*, *Fagus grandifolia*, *Lycopodium lucidulum*, *Mitchella repens*, *Pinus resinosa*, *Polystichum acrostichoides*, *Shepherdia canadensis*, and *Thelypteris hexagonoptera*.

(3) Personal observation indicates that *D. filix-mas* is not commonly cultivated in this area at present. Therefore, it is not likely that these plants have escaped from cultivation. Although the Male Fern formerly was grown for its medicinal properties, the colony does not appear to have been established for a long time, and so it is unlikely to have originated from plants that were cultivated in the past. It is also unlikely that plants on such a steep and inaccessible site were deliberately planted.

(4) Single plants or small colonies of other ferns with northern distributions are known to occur widely disjunct in southern Michigan (Wagner, 1972, p. 205 and pers. comm.). Examples include *Botrychium minganense*, *Gymnocarpium dryopteris*, and *Polystichum braunii*.

(5) *Dryopteris filix-mas*, a homosporous pteridophyte, apparently is capable of intra-gametophytic selfing (W. H. Wagner, pers. comm.), and so one wind-borne spore could produce a new, disjunct colony.

(6) The distribution pattern of *D. filix-mas* (Hultén, 1962, p. 119), with its widely disjunct stations in California, Mexico, South America, Hawaii, Greenland, Iceland, and Africa, indicates that this species is capable of wide dispersal.

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Specimens of *Evert 1651* have been deposited at the Morton Arboretum Herbarium (MOR) and the University of Michigan Herbarium (MICH).

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